

### **REMARKS**

This is a full and timely response to the non-final Office Action of November 30, 2004. Upon entry of this First Response, claims 1, 6, and 11-16 are currently pending in this application. Claims 11-16 are newly added. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested. It is believed that the foregoing amendments add no new matter to the present application.

Initially, Applicants believed that the amendments made via preliminary amendment submitted with the presently pending application on February 28, 2001, were not considered by the Patent Office. Such belief was formed because it appeared that the Examiner continued to consider claims 2-5 and 7-10 in the Office Action of November 30, 2004. Further, changes to the specification were not acknowledged in the Office Action.

However, in a telephone conversation on February 10, 2005, the Examiner indicated to the Applicant's Attorney that such preliminary amendments have been entered and were considered in rejecting the currently pending claims. Furthermore, the Examiner indicated that the changes to the specification were made and the noted claims were canceled.

### **Response to Double Patenting Rejections**

Claims 1 and 6 presently stand rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 1 and 3-8 of *Blackwell* (U.S. Patent No. 6,259,680). Applicants submit herewith a terminal disclaimer regarding *Blackwell*. Thus, the aforementioned double patenting rejections, which are all based at least in part on *Blackwell*, should be withdrawn.

In filing the terminal disclaimer, Applicants rely upon the rulings of the Federal Circuit that the filing of such a terminal disclaimer does not act as an admission, acquiescence or

estoppel on the merits of the obviousness issue. “In legal principle, the filing of a terminal disclaimer simply serves the statutory function of removing the rejection of double patenting, and raises neither presumption nor estoppel on the merits of the rejection.” *Quad Environmental Tech. v. Union Sanitary Dist.*, 946 F.2d 870, 874 (Fed. Cir. 1991); *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 941-942 (Fed. Cir. 1992).

### **Response to Specification Objection**

In addition, the disclosure is presently objected to because of the lack of cross reference related to the co-pending divisional application 08/941,911 and continuation-in-part application 09/973,103. However, Applicants submit that a cross-reference has previously been made to the co-pending divisional application 08/941,911 via preliminary amendment filed February 28, 2001. Therefore, Applicants respectfully request that the objection to the specification in this regard be withdrawn.

However, with respect to a cross-reference to continuation-in-part application 09/973,103, such application is not related to this currently pending application. Therefore, Applicants respectfully request that the objection to the specification based upon the lack of cross-reference to the continuation-in-part application be withdrawn.

### Response to §102 Rejections

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983).

#### Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §102 as being anticipated by *Ho*.

Claim 1 reads as follows:

1. A method for echo cancellation in a communication system utilizing a bidirectional transmission medium, said method comprising the steps of:
  - (a) generating a first signal at a first sampling rate within said first frequency band;
  - (b) transmitting said first signal in a first direction through said bidirectional medium;
  - (c) receiving a second signal in a second direction through said bidirectional medium at a second sampling rate within a second frequency band, said first and second frequency bands being partially overlapped, said second sampling rate being less than said first sampling rate; and,
  - (d) ***canceling said echo from said second signal, said canceling step including the step of replicating said echo by sampling said first signal at said second sampling rate, whereby said echo canceling is performed within said second frequency band.*** (Emphasis added).

Applicants respectfully assert that *Ho* fails to disclose at least the features of claim 1 highlighted above.

In this regard, the Office Action alleges that Figure 5 teaches an “encoder... operating (at) a first signaling rate and frequency band, generates X(f) (generating a first signal)” and a “receiver receive upstream signal (a second signal & second direction) and inherently decodes the signal in accordance with a second rate.” See Office Action, page 4. Thus, it appears that the Office Action alleges that “X(f)” of *Ho* constitutes the “first signal” recited in claim 1 and that the “upstream signal” received by the receiver of *Ho* constitutes the “second signal” recited

in claim 1. However, there is nothing in *Ho* to indicate that an echo signal is replicated by sampling  $X(f)$  at the “second sampling rate” (i.e., the rate at which the “upstream signal” is sampled). In fact, the Office Action fails to allege that  $X(f)$  is sampled at the same rate as the “upstream signal.” Thus, Applicants respectfully submit that the Office Action fails to establish that the cited art discloses “replicating said echo by sampling said first signal at said second sampling rate,” as claimed in amended claim 1.

For at least the above reasons, Applicants submit that the cited art fails to disclose each of the elements of claim 1. Therefore, the rejection of claim 1 under 35 U.S.C. §102 is improper and should be withdrawn.

#### **Claim 6**

Claim 6 presently stands rejected under 35 U.S.C. §102 as being anticipated by *Ho*.

Claim 6 reads as follows:

6. An apparatus for echo cancellation in a communication system utilizing a bidirectional transmission medium, said apparatus comprising:
  - (a) an information source for generating a first signal at a first sampling rate within said first frequency band, said first signal characterized by an echo at said first sampling rate within said first frequency band;
  - (b) a transmitter for transmitting said first signal in a first direction through said bidirectional medium;
  - (c) a receiver for receiving a second signal in a second direction through said bidirectional medium at a second sampling rate within a second frequency band, said first and second frequency bands being partially overlapped, said second sampling rate being less than said first sampling rate; and,
  - (d) *an echo canceler for canceling said echo from said second signal, said canceler comprising an echo replica unit for replicating said echo by sampling said first signal at said second sampling rate, the combination being so constructed and arranged that said canceling is performed within said second frequency band.* (Emphasis added).

Applicants assert that *Ho* fails to disclose at least the features of claim 6 highlighted above for at least those reasons argued with respect to claim 1. Accordingly, Applicants respectfully request that the §102 rejection of claim 6 be withdrawn.

#### **Claims 11-13**

Claims 11-13 are newly added via amendments made directly herein. Applicants submit that the pending dependent claims 11-13 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 11-13 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

#### **Claims 14-16**

Claims 14-16 are newly added via amendments made directly herein. Applicants submit that the pending dependent claims 14-16 contain all features of their respective independent claim 6. Since claim 6 should be allowed, as argued hereinabove, pending dependent claims 14-16 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

**CONCLUSION**

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,

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